

## CLAIMS

What is claimed is:

1           1.     A method for communicating messages between a first party and a second  
2 party, said method comprising the steps of:

3                 storing prior state information at said second party;

4                 constructing at least one message, at said first party, to convey information  
5                     to said second party, said information comprising at least a portion of  
6                     said prior state information;

7                 encoding said message to generate a difference message comprising  
8                     difference information, said difference information comprising the  
9                     difference between said information in said message and said prior  
10                    state information;

11                transmitting said difference message from said first party to said second  
12                    party; and

13                reconstructing, at said second party, said message from said difference  
14                    message by combining said difference information with said  
15                    information from said prior state information.

1           2.     The method as set forth in claim 1, wherein said prior state information  
2 comprises at least one prior message.

1           3.     The method as set forth in claim 1, wherein:  
2                 said message comprises a plurality of arguments; and  
3                 said prior state information comprises one of said arguments.

1           4.     The method as set forth in claim 1, wherein said difference message  
2 further comprises an identifier to said prior state information.

1           5.     The method as set forth in claim 1, wherein said difference message  
2 further comprises a time identifier to said prior state information.

1           6.     The method as set forth in claim 1, further comprising the steps of:  
2                 storing said prior state information at said first party;  
3                 constructing, at said second party, a second message to convey second  
4                 information and at least a portion of said prior state information;  
5                 encoding said second message to generate a second difference message  
6                 comprising second difference information, said second difference

7 information comprising the difference between said information in said  
8 second message and said prior state information;

9 transmitting said second difference message from said second party to said  
10 first party; and

11 reconstructing, at said first party, said second current message by  
12 combining said second difference information with said information  
13 from said prior state information.

- 1 7. The method as set forth in claim 1, further comprising the steps of:  
2 determining whether said at least a portion of said prior state information  
3 is retrievable at said second party; and  
4 if said at least a portion of said prior state information is not retrievable,  
5 sending, from said second party to said first party, a negative  
6 acknowledgement message to said first party.

- 1 8. The method as set forth in claim 7, further comprising the step of sending,  
2 in said negative acknowledgement message, from said second party to said first party, an  
3 indication of information stored at said second party so as to assist said first party in  
4 constructing said first message using said prior state information.

1           9.       The method as set forth in claim 7, further comprising the step of sending,  
2 from said first party to said second party, said first message if said prior state information  
3 is not retrievable.

1           10.     The method as set forth in claim 1, further comprising the step of:  
2 executing at least one application program at said first party independent of  
3 communicating messages between a first party and a second party.

1           11.     The method as set forth in claim 1, wherein, prior to encoding said first  
2 message, the method further comprises the steps of:

3                   determining whether said first message is similar to said prior state  
4 information; and

5                   if said first message is similar to said prior state information, executing the  
6 step encoding said message to generate a difference message.

1           12.     A computer readable medium comprising a plurality of instructions, which  
2 when executed by a computer system, cause the computer to perform the steps of:

3                   storing prior state information at said second party;

4                   constructing at least one message, at said first party, to convey information

5                   to said second party, said information comprising at least a portion of

6                   said prior state information;

7 encoding said message to generate a difference message comprising  
8 difference information, said difference information comprising the  
9 difference between said information in said message and said prior  
10 state information;

11 transmitting said difference message from said first party to said second  
12 party; and

13 reconstructing, at said second party, said message from said difference  
14 message by combining said difference information with said  
15 information from said prior state information.

13. The computer readable medium as set forth in claim 12, wherein said prior  
state information comprises at least one prior message.

14. The computer readable medium as set forth in claim 12, wherein:

said message comprises a plurality of arguments; and

said prior state information comprises one of said arguments.

15. The computer readable medium as set forth in claim 12, wherein said  
difference message further comprises an identifier to said prior state information.

16. The computer readable medium as set forth in claim 12, wherein said  
difference message further comprises a time identifier to said prior state information.

1           17.    The computer readable medium as set forth in claim 12, further  
2 comprising the steps of:

3                   storing said prior state information at said first party;

4                   constructing, at said second party, a second message to convey second  
5 information and at least a portion of said prior state information;

6                   encoding said second message to generate a second difference message  
7 comprising second difference information, said second difference  
8 information comprising the difference between said information in said  
9 second message and said prior state information;

10                  transmitting said second difference message from said second party to said  
11 first party; and

12                  reconstructing, at said first party, said second current message by  
13 combining said second difference information with said information  
14 from said prior state information.

1           18.    The computer readable medium as set forth in claim 12, further  
2 comprising the steps of:

3 determining whether said at least a portion of said prior state information  
4 is retrievable at said second party; and  
5 if said at least a portion of said prior state information is not retrievable,  
6 sending, from said second party to said first party, a negative  
7 acknowledgement message to said first party.

1 19. The computer readable medium as set forth in claim 18, further  
2 comprising the step of sending, in said negative acknowledgement message, from said  
3 second party to said first party, an indication of information stored at said second party so  
4 as to assist said first party in constructing said first message using said prior state  
5 information.

1 20. The computer readable medium as set forth in claim 18, further  
2 comprising the step of sending, from said first party to said second party, said first  
3 message if said at least a portion of said prior state information is not retrievable.

1 21. The computer readable medium as set forth in claim 12, further  
2 comprising the step of executing at least one application program at said first party  
3 independent of communicating messages between a first party and a second party.

22. The computer readable medium as set forth in claim 12, wherein, prior to encoding said first message, the method further comprises the steps of:

determining whether said first message is similar to said prior state information; and

5 if said first message is similar to said prior state information, executing instructions for encoding said message to generate a difference message.